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some indication that other inorganic compounds may stimulate root growth in cuttings. The author's work gives further strong evidence that callus and root growth is independent of the rest period and that only the buds assume the resting condition. Immature twigs were caused to absorb cane sugar which increased root development. Mature twigs, however, were but slightly benefited. When the base of cuttings were placed in sugar solution for a short time, the terminal bud of the twig failed to develop in a normal manner and the lower buds formed shoots instead. The author believes that many of the practices commonly followed by greenhouse and nursery men in the propagation of plants by cuttings are explainable on the basis of better aëration. The discussions of the literature are comprehensive and critical.—CHARLES O. APPLEMAN.

Vegetation of Newfoundland.—In contrasting the divergent floras of different parts of Newfoundland, FERNALD¹⁴ bases his explanation of their differences upon the hypothesis that "the presence or absence of varying degrees of available lime or of other bases in the soil is more fundamental in determining plant distribution than are even considerable differences of temperature and humidity."

The calcareous and at the same time the most fertile portion of the island is along the west shore, where the ordinary observer would be surprised to find the indigenous flora of the warmest and most fertile region of the island composed very largely of species of high northern distribution, such as *Juncus triglumis*, *Saxifraga oppositifolia*, *S. aizoides*, *S. caespitosa*, *Salix vestita*, *Dryas integrifolia*, and *Lesquerella arctica*. These FERNALD explains as being from the calcareous habitats of the arctic archipelago and the Canadian Rockies, the lime being hostile to the plants of the siliceous adjacent mainland. The eastern part of the island, the central tundra district, and the southwest corner, in spite of the fact that they are cold, bleak, and barren, are populated mainly by plants of the southern Atlantic coast region, with an addition of some like *Calluna vulgaris* and *Pedicularis sylvatica* from the acid soils of western Europe.

Maps of the distribution of a dozen species give graphic demonstration of the remarkable distribution of some of the more important plants and serve to make the evidence in the support of his hypothesis the more convincing.—GEO. D. FULLER.

Physiological rôle of glucosides in plants.—Continuing his investigations on the physiological rôle of glucosides in plants, COMBES¹⁵ has made the interesting discovery that a given glucoside is not toxic to a plant which naturally

¹⁴ FERNALD, M. L., The contrast in the floras of eastern and western Newfoundland. Amer. Jour. Bot. 5:237-247. pls. 3. 1918.

¹⁵ COMBES, RAOUL, Recherches biochimiques experimentales sur le rôle physiologique des glucosides chez les vegetaux. Rev. Gen. Botanique 30:226-237, 245-257. 1918.